

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-12. (cancelled)

13. (currently amended) Apparatus for providing a seal between first and second relatively rotatable parts of a mechanism used in an environment comprising pulverulent material entrained in a fluid, the apparatus comprising:

a first element and a second element between which an annular passage is defined when the first element is mounted on one said part of the mechanism and the second element is mounted on the other said part of the mechanism and the one part is rotated with respect to the other,

wherein the annular passage is defined by interfacing surfaces of the respective elements between which there is an initial clearance of substantially greater size than that of pulverulent material entrained in the fluid and is such as to enable said pulverulent material to enter the annular passage when the apparatus is in use and to be deposited in layers which build up so that there is formed between the layers a labyrinthine passage having a width which is substantially smaller than the size of said pulverulent material so that the flow of fluid through the labyrinthine passage is substantially restricted and

substantially no further said pulverulent material can flow through the annular passage ~~and is such that the flow of fluid through the labyrinthine passage is substantially restricted,~~ the ratio of the minimum value of the initial clearance between the interfacing surfaces to the minimum diameter of the annular passage being not substantially less than 1:150.

14. (cancelled)

15. (previously presented) Apparatus according to claim 13, wherein one of the elements is provided with an annular projection which in use projects into an annular recess formed in the other element, the annular projection embodying at least part of a first of the interfacing surfaces and the annular recess embodying at least part of a second of the interfacing surfaces.

16. (cancelled)

17. (previously presented) Apparatus according to claim 13, wherein the ratio of the length of the annular passage to the minimum diameter of the annular passage is not substantially less than 1:2.

18. (previously presented) Apparatus according to claim 13, wherein the ratio of the width of the widest of the interfacing surfaces to the minimum diameter of the annular passage is not substantially less than 1:20.

19. (previously presented) Apparatus according to claim 13, wherein the fluid is a gas.

20. (previously presented) Apparatus according to claim 13, wherein the fluid is a liquid.

21. (previously presented) Apparatus for providing a seal between first and second relatively rotatable parts of a mechanism used in an environment comprising pulverulent material entrained in a fluid, the apparatus comprising:

a first element and a second element between which an annular passage is defined when the first element is mounted on one said part of the mechanism and the second element is mounted on the other said part of the mechanism and the one part is rotated with respect to the other,

wherein the annular passage is defined by interfacing surfaces of the respective elements between which there is a clearance such as to enable pulverulent material entrained in the fluid to enter the annular passage when the apparatus is in use and to be deposited in layers which build up so that there is formed between the layers a labyrinthine passage having a width which is substantially smaller than the clearance between the interfacing surfaces and is such that the flow of fluid through the labyrinthine passage is substantially restricted, and

wherein the minimum value of the clearance between the interfacing surfaces is not substantially less than 0.4 mm.

22. (previously presented) Apparatus according to claim 13, in which a first member is provided which is located in the annular passage and which is constructed of material which is

more susceptible to wear than the material of which the interfacing surfaces of the elements are constructed, there being clearance between the first member and the interfacing surfaces so that the first member is able to move both radially and axially in the annular passage.

23. (previously presented) Apparatus for providing a seal between first and second relatively rotatable parts of a mechanism used in an environment comprising pulverulent material entrained in a fluid, the apparatus comprising:

a first element and a second element between which an annular passage is defined when the first element is mounted on one said part of the mechanism and the second element is mounted on the other said part of the mechanism and the one part is rotated with respect to the other,

wherein the annular passage is defined by interfacing surfaces of the respective elements between which there is a clearance such as to enable pulverulent material entrained in the fluid to enter the annular passage when the apparatus is in use and to be deposited in layers which build up so that there is formed between the layers a labyrinthine passage having a width which is substantially smaller than the clearance between the interfacing surfaces and is such that the flow of fluid through the labyrinthine passage is substantially restricted, and

wherein the first element is a rotor and the second element is a stator and further comprising second and third

members provided in the annular passage that are constructed of material which is more susceptible to wear than the material of which the interfacing surfaces of the elements are constructed, the second member being seated on the stator and the third member being seated on the rotor so as to rotate therewith with respect to the second member, there being clearance between the second member and the third member so that the third member is able to move radially with respect to the second member when the rotor rotates.

24. (previously presented) Apparatus for providing a seal between first and second relatively rotatable parts of a mechanism used in an environment comprising pulverulent material entrained in a fluid, the apparatus comprising:

a first element and a second element between which an annular passage is defined when the first element is mounted on one said part of the mechanism and the second element is mounted on the other said part of the mechanism and the one part is rotated with respect to the other,

wherein the annular passage is defined by interfacing surfaces of the respective elements between which there is clearance and on which, when the mechanism is in use, the pulverulent material entrained in the fluid which enters the annular passage can be deposited in layers which substantially restrict flow of the fluid through the annular passage, and

wherein a first member is provided which is located in the annular passage and which is constructed of material which is more susceptible to wear than the material of which the interfacing surfaces of the elements are constructed, there being clearance between the first member and the interfacing surfaces so that the first member is able to move both radially and axially in the annular passage.